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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,790

06/26/2003

Won-Seok Kang

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12/14/2004

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EXAMINER

TON, MINH TOAN T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,790

Applicant(s)

KANG, WON-SEOK

Examiner

Toan Ton

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-17, 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-9 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Election/Restriction

1. An election without traverse of claims 1-9 and 18 is acknowledged. Claims 10-17 and 20 have been withdrawn from consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimori et al (US 2004/0169810) in view of Choi (US 6781658).

Fujimori discloses a reflective liquid crystal display device comprising (see at least Figure 1): a substrate having first and second pixel regions; a gate line (inherently) on the substrate; a data line (inherently) crossing the gate line and defining the pixel regions; a thin film transistor (inherently) connected to the gate line and the data line, wherein the thin film transistor (inherently) comprises a gate electrode, an active layer, and source and drain electrodes; at least first and second reflective electrodes over the thin film transistor, wherein the first and second reflective electrodes are separated from each other by a first gap, the first and second reflective electrodes are located at the first and second pixel regions, respectively, and a patterned spacer 6 filling the first gap between the first and second reflective electrodes.

Art Unit: 2871

Fujimori fails to disclose the pixel electrodes completely covering the data line at the pixel regions.

Choi discloses the pixel electrodes completely covering the data lines (including branch data lines) at the pixel regions for advantages such as high aperture ratio (see at least Figure . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the pixel electrodes completely covering the data line at the pixel regions for advantages such as high aperture ratio.

Choi discloses the pixel electrode and the (branch) data line having an overlapping area substantially the same as a second overlapping area formed by the adjacent pixel electrode and the (branch) data line.

The pixel electrode inherently connected to the drain electrode, the gate electrode connected to the gate line, and the source electrode connected to the data line.

Fujimori discloses the reflective electrode(s) formed of a material such as Al, Ag (col. 5, lines 8-10).

Fujimori discloses the reflective electrodes having an uneven surface (see at least Figure 1).

Fujimori discloses the spacer formed of a material such as photosensitive organic material having a negative type (col. 7, [0135] and [0136]).

Fujimori discloses the spacer including a black material (opaque) (col. 9, [0158]).

Allowable Subject Matter

3. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not anticipate nor render obvious to one ordinary skilled in the art a liquid crystal display device comprising a combination of various elements as claimed, more specifically, the first gap (separation between the first and second reflective electrodes) is equal to or smaller than the second gap (separation between the first and branch data lines), wherein the reflective electrodes completely cover the branch data lines.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2871

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 9, 2004


TOANTON
PRIMARY EXAMINER